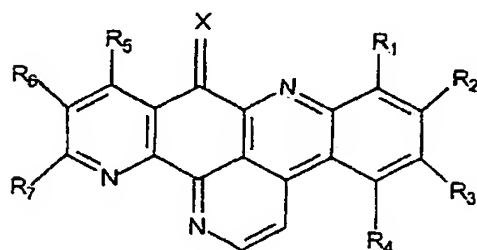


AMENDMENTS TO THE CLAIMS:

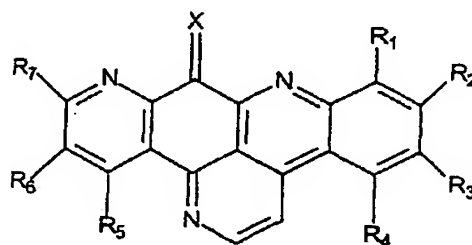
This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

1. (previously presented) A pharmaceutical composition comprising an effective amount of a compound chosen from the compounds of general formulae I and Ia below for treating, by virtue of their cytotoxic properties, cancerous tumors and their metastases:



Formula I



Formula Ia

in which:

- X is chosen from oxygen,
- R<sub>1</sub> is chosen from hydrogen, halogens, a nitro group and groups -NR<sub>8</sub>R<sub>9</sub> in which R<sub>8</sub> and R<sub>9</sub> are chosen, independently of each other, from hydrogen and (C<sub>1</sub>-C<sub>4</sub>) alkyl groups,
- R<sub>2</sub> is chosen from hydrogen and halogens,
- R<sub>3</sub> is chosen from halogens, (C<sub>1</sub>-C<sub>4</sub>) alkyl groups, (C<sub>1</sub>-C<sub>6</sub>) alkoxy groups, a guanidino group, groups -NR<sub>10</sub>R<sub>11</sub> in which R<sub>10</sub> and R<sub>11</sub> are chosen, independently of each other, from hydrogen, (C<sub>1</sub>-C<sub>4</sub>) alkyl groups, (C<sub>1</sub>-C<sub>4</sub>) phenylalkyl groups and

groups  $-(CH_2)_n-Y$  with Y being chosen from halogens and CN,  $-CH(O-Et)_2$ ,  $(C_1-C_6)$  alkoxy,  $-O-(CH_2)_2-N(CH_3)_2$  and  $-N(CH_3)_2$  groups and  $n = 1$  to  $3$ ,

-  $R_4$  is chosen from hydrogen, halogens, nitro groups and groups  $-NR_{12}R_{13}$  in which  $R_{12}$  and  $R_{13}$  are chosen, independently of each other, from hydrogen and  $(C_1-C_4)$  alkyl groups,

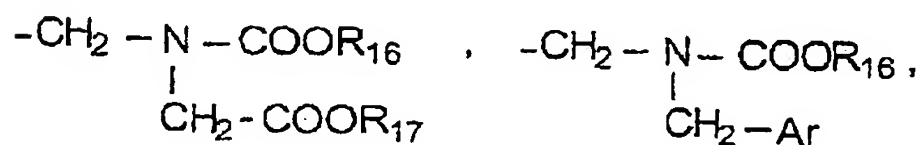
-  $R_5$ ,  $R_6$  and  $R_7$  are chosen from:

hydrogen or a halogen atom,

$C_1-C_6$  alkyl, hydroxyl,  $C_1-C_6$  alkoxy,  $(C_1-C_6)$ alkoxy $(C_1-C_6)$ alkyl,  $(C_1-C_4)$ alkylcarbonyloxy $(C_1-C_4)$ alkyl,  $-CHO$ ,  $-COOH$ ,  $-CN$ ,  $-CO_2R_{14}$ ,  $-CONHR_{14}$  and  $-CONR_{14}R_{15}$  groups,  $-NHCOR_{14}$  and  $-NR_{14}R_{15}$  in which  $R_{14}$  and  $R_{15}$  are chosen, independently of each other, from hydrogen and  $(C_1-C_6)$  alkyl,  $-phenyl-CO-CH_3$  and  $-CH_2-CH_2-N(CH_3)_2$  groups,

$-phenyl-CO-CH_3$  or  $-phenyl-CO-CH=CH-N(CH_3)_2$ , morpholino, nitro or  $SO_3H$  groups,

groups:



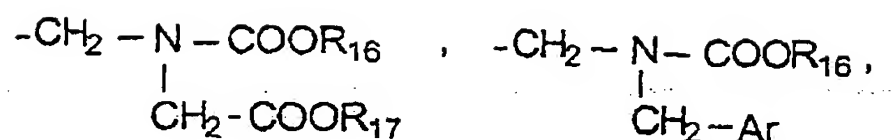
$R_{16}$  and  $R_{17}$  being chosen from  $C_1-C_6$  alkyl groups and Ar being a  $C_6-C_{14}$  aryl group,

and the addition salts of these compounds with pharmaceutically acceptable acids.

2. (previously presented) A pharmaceutical composition comprising an effective amount of a compound chosen from the compounds of formula I in which:

- X is chosen from oxygen,
- R<sub>1</sub> is chosen from hydrogen, halogens, a nitro group and groups -NR<sub>8</sub>R<sub>9</sub> in which R<sub>8</sub> and R<sub>9</sub> are chosen, independently of each other, from hydrogen and (C<sub>1</sub>-C<sub>4</sub>) alkyl groups,
- R<sub>2</sub> is chosen from hydrogen and halogens,
- R<sub>3</sub> is chosen from halogens, (C<sub>1</sub>-C<sub>4</sub>) alkyl groups, (C<sub>1</sub>-C<sub>6</sub>) alkoxy groups, a guanidino group, groups -NR<sub>10</sub>R<sub>11</sub> in which R<sub>10</sub> and R<sub>11</sub> are chosen, independently of each other, from hydrogen, (C<sub>1</sub>-C<sub>4</sub>) alkyl groups, (C<sub>1</sub>-C<sub>4</sub>) phenylalkyl, -(CH<sub>2</sub>)<sub>2</sub>-N(CH<sub>3</sub>)<sub>2</sub>, and -(CH<sub>2</sub>)<sub>2</sub>-O-(CH<sub>2</sub>)<sub>2</sub>-N(CH<sub>3</sub>)<sub>2</sub> groups,
- R<sub>4</sub> is chosen from hydrogen, halogens, nitro groups and groups -NR<sub>12</sub>R<sub>13</sub> in which R<sub>12</sub> and R<sub>13</sub> are chosen, independently of each other, from hydrogen and (C<sub>1</sub>-C<sub>4</sub>) alkyl groups,
- R<sub>5</sub>, R<sub>6</sub> and R<sub>7</sub> are chosen from:
  - hydrogen or a halogen atom,
  - C<sub>1</sub>-C<sub>6</sub> alkyl, hydroxyl, C<sub>1</sub>-C<sub>6</sub> alkoxy, -CHO, -COOH, -CN, -CO<sub>2</sub>R<sub>14</sub>, -CONHR<sub>14</sub> and -CONR<sub>14</sub>R<sub>15</sub> groups, -NHCOR<sub>14</sub> and -NR<sub>14</sub>R<sub>15</sub> groups in which R<sub>14</sub> and R<sub>15</sub> are chosen, independently of each other, from hydrogen and (C<sub>1</sub>-C<sub>6</sub>) alkyl and -CH<sub>2</sub>-CH<sub>2</sub>-N(CH<sub>3</sub>)<sub>2</sub> groups,
  - phenyl-CO-CH<sub>3</sub> or -phenyl-CO-CH=CH-N(CH<sub>3</sub>)<sub>2</sub>, morpholino, nitro or SO<sub>3</sub>H groups,

groups:



R<sub>16</sub> and R<sub>17</sub> being chosen from C<sub>1</sub>-C<sub>6</sub> alkyl groups and Ar being a C<sub>6</sub>-C<sub>14</sub> aryl group,

and the addition salts of these compounds are with pharmaceutically acceptable acids.

3. (previously presented) The pharmaceutical composition as claimed in claim 2, comprising an effective amount of a compound chosen from the compounds of formula I in which:

- X represents oxygen,
- R<sub>1</sub> is chosen from hydrogen and an amino group,
- R<sub>2</sub> is chosen from hydrogen and halogens,
- R<sub>3</sub> is chosen from halogens, (C<sub>1</sub>-C<sub>4</sub>) alkyl groups, (C<sub>1</sub>-C<sub>6</sub>) alkoxy groups, a guanidino group, groups -NR<sub>10</sub>R<sub>11</sub> in which R<sub>10</sub> and R<sub>11</sub> are chosen, independently of each other, from hydrogen, methyl groups, (C<sub>1</sub>-C<sub>4</sub>) phenylalkyl, -(CH<sub>2</sub>)<sub>2</sub>-N(CH<sub>3</sub>)<sub>2</sub>, -(CH<sub>2</sub>)<sub>2</sub>-O-(CH<sub>2</sub>)<sub>2</sub>-N(CH<sub>3</sub>)<sub>2</sub> groups,

- R<sub>4</sub> is chosen from hydrogen, halogens and nitro and amino groups,

- R<sub>5</sub>, R<sub>6</sub> and R<sub>7</sub> represent a hydrogen,

and the addition salts of these compounds with pharmaceutically acceptable acids.

4. (previously presented) The pharmaceutical composition as claimed in claim 1, comprising an effective amount

of a compound chosen from the compounds of formulae I and Ia in which:

- X represents oxygen,
  - $R_1$  is chosen from hydrogen and an amino group,
  - $R_2$  is chosen from hydrogen and halogens,
  - $R_3$  is chosen from halogens,  $(C_1-C_4)$  alkyl groups,  $(C_1-C_6)$  alkoxy groups, a guanidino group, groups  $-NR_{10}R_{11}$  in which  $R_{10}$  and  $R_{11}$  are chosen, independently of each other, from hydrogen, methyl groups,  $(C_1-C_4)$  phenylalkyl groups and groups  $-(CH_2)_n-Y$  with Y being chosen from halogens and groups CN,  $-CH(O-Et)_2$ ,  $(C_1-C_6)$  alkoxy,  $-O-(CH_2)_2-N(CH_3)_2$  and  $-N(CH_3)_2$  and  $n = 1$  to  $3$ ,
  - $R_4$  is chosen from hydrogen, halogens, and nitro and amino groups,
  - $R_5$  is chosen from a hydrogen, a halogen and a methoxy group,
  - $R_6$  and  $R_7$  are chosen from hydrogen and  $C_1-C_6$  alkoxy,  $(C_1-C_6)$ alkoxy $(C_1-C_6)$ alkyl and  $-CH_2OCOCH_3$  groups,
- and the addition salts of these compounds with pharmaceutically acceptable acids.

5. (previously presented) The composition as claimed in claim 4, in which the compounds are chosen from:

- 5-(dimethylamino)-9H-quino[4,3,2-de][1,10]phenanthrolin-9-one,
- 5-(benzylamino)-9H-quino[4,3,2-de][1,10]phenanthrolin-9-one,
- 5-bromo-9H-quino[4,3,2-de][1,10]phenanthrolin-9-one,
- 5-amino-9H-quino[4,3,2-de][1,10]phenanthrolin-9-one,

5-methyl-9H-quino[4,3,2-de][1,10]phenanthrolin-9-one,  
5-methoxy-9H-quino[4,3,2-de][1,10]phenanthrolin-9-one,  
5-chloro-9H-quino[4,3,2-de][1,10]phenanthrolin-9-one,  
5-bromo-10-methoxy-9H-quino[4,3,2-de][1,10]phenanthrolin-9-one,  
5-(dimethylamino-2-ethyl)amino-9H-quino[4,3,2-de]-  
[1,10]phenanthrolin-9-one,  
5-bis(2-chloroethyl)amino-9H-quino[4,3,2-de]-  
[1,10]phenanthrolin-9-one,  
5-(2-chloroethyl)amino-9H-quino[4,3,2-de][1,10]-  
phenanthrolin-9-one,  
4-bromo-5-amino-9-H-quino[4,3,2-de][1,10]phenanthrolin-9-one,  
5-bromo-9-H-quino[4,3,2-de][1,7]phenanthrolin-9-one,  
5-amino-9-H-quino[4,3,2-de][1,7]phenanthrolin-9-one,  
5-(dimethylamino-2-ethyl)amino-9-H-quino[4,3,2-de][1,7]phenanthrolin-9-one,  
5-bis(chloroethylamino-2-ethyl)amino-9-H-quino[4,3,2-de][1,7]phenanthrolin-9-one,  
5-(chloroethylamino-2-ethyl)amino-9-H-quino[4,3,2-de][1,7]phenanthrolin-9-one,  
4-bromo-5-amino-9-H-quino[4,3,2-de][1,7]phenanthrolin-9-one,  
and the addition salts thereof with pharmaceutically acceptable acids.

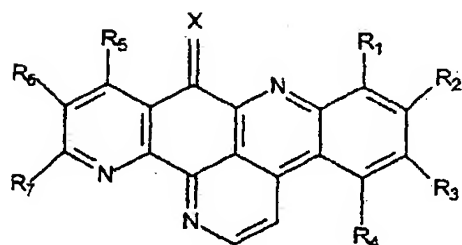
6. (cancelled)

7. (previously presented) The process according to claim 12, wherein said compound is selected from the group consisting of:

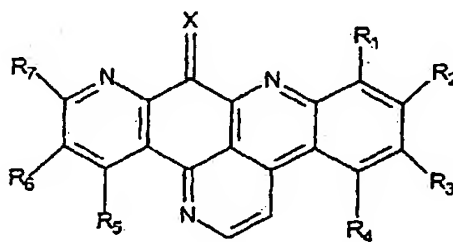
5-(dimethylamino)-9H-quino[4,3,2-de][1,10]phenanthrolin-9-one,  
5-(benzylamino)-9H-quino[4,3,2-de][1,10]phenanthrolin-9-one,  
5-bromo-9H-quino[4,3,2-de][1,10]phenanthrolin-9-one,  
5-amino-9H-quino[4,3,2-de][1,10]phenanthrolin-9-one,  
5-methyl-9H-quino[4,3,2-de][1,10]phenanthrolin-9-one,  
5-methoxy-9H-quino[4,3,2-de][1,10]phenanthrolin-9-one,  
5-chloro-9H-quino[4,3,2-de][1,10]phenanthrolin-9-one,  
5-bromo-10-methoxy-9H-quino[4,3,2-de][1,10]phenanthrolin-9-one,  
5-(dimethylamino-2-ethyl)amino-9H-quino[4,3,2-de]-[1,10]phenanthrolin-9-one,  
5-bis(2-chloroethyl)amino-9H-quino[4,3,2-de]-[1,10]phenanthrolin-9-one,  
5-(2-chloroethyl)amino-9H-quino[4,3,2-de][1,10]-phenanthrolin-9-one,  
4-bromo-5-amino-9-H-quino[4,3,2-de][1,10]phenanthrolin-9-one,  
5-bromo-9-H-quino[4,3,2-de][1,7]phenanthrolin-9-one,  
5-amino-9-H-quino[4,3,2-de][1,7]phenanthrolin-9-one,  
5-(dimethylamino-2-ethyl)amino-9-H-quino[4,3,2-de][1,7]phenanthrolin-9-one,

5-bis(chloroethylamino-2-ethyl)amino-9-H-quino[4,3,2-de][1,7]phenanthrolin-9-one,  
5-(chloroethylamino-2-ethyl)amino-9-H-quino[4,3,2-de][1,7]phenanthrolin-9-one,  
4-bromo-5-amino-9-H-quino[4,3,2-de][1,7]phenanthrolin-9-one,  
and the addition salts thereof with pharmaceutically acceptable acids.

8. (previously presented) Compounds of general formulae I and Ia



Formula I



Formula Ia

in which:

- X is chosen from oxygen,
- R<sub>1</sub> is chosen from hydrogen, halogens, a nitro group and groups -NR<sub>8</sub>R<sub>9</sub> in which R<sub>8</sub> and R<sub>9</sub> are chosen, independently of each other, from hydrogen and (C<sub>1</sub>-C<sub>4</sub>) alkyl groups,
- R<sub>2</sub> is chosen from hydrogen and halogens,
- R<sub>3</sub> is chosen from halogens, (C<sub>1</sub>-C<sub>4</sub>) alkyl groups, a guanidino group, groups -NR<sub>10</sub>R<sub>11</sub> in which R<sub>10</sub> and R<sub>11</sub> are chosen, independently of each other, from hydrogen, (C<sub>1</sub>-C<sub>4</sub>) alkyl groups, (C<sub>1</sub>-C<sub>4</sub>) phenylalkyl groups and groups -(CH<sub>2</sub>)<sub>n</sub>-Y with Y being



chosen from halogens and CN,  $-\text{CH}(\text{O}-\text{Et})_2$ ,  $(\text{C}_1-\text{C}_6)$  alkoxy,  $-\text{O}-(\text{CH}_2)_2-\text{N}(\text{CH}_3)_2$  and  $-\text{N}(\text{CH}_3)_2$  groups and  $n = 1$  to  $3$ ,

-  $\text{R}_4$  is chosen from hydrogen, halogens, nitro groups and groups  $-\text{NR}_{12}\text{R}_{13}$  in which  $\text{R}_{12}$  and  $\text{R}_{13}$  are chosen, independently of each other, from hydrogen and  $(\text{C}_1-\text{C}_4)$  alkyl groups,

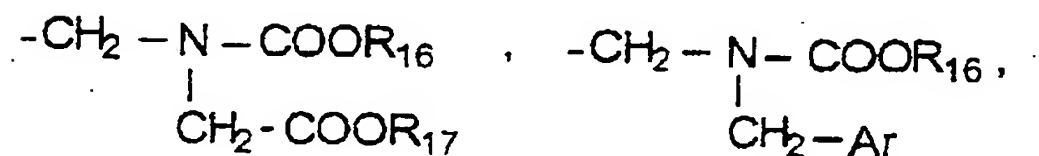
-  $\text{R}_5$ ,  $\text{R}_6$  and  $\text{R}_7$  are chosen from:

hydrogen or a halogen atom,

$\text{C}_1-\text{C}_6$  alkyl, hydroxyl,  $\text{C}_1-\text{C}_6$  alkoxy,  $(\text{C}_1-\text{C}_6)$ alkoxy $(\text{C}_1-\text{C}_6)$ alkyl,  $(\text{C}_1-\text{C}_4)$ alkylcarbonyloxy $(\text{C}_1-\text{C}_4)$ alkyl,  $-\text{CHO}$ ,  $-\text{COOH}$ ,  $-\text{CN}$ ,  $-\text{CO}_2\text{R}_{14}$ ,  $-\text{CONHR}_{14}$  and  $-\text{CONR}_{14}\text{R}_{15}$  groups,  $-\text{NHCOR}_{14}$  and  $-\text{NR}_{14}\text{R}_{15}$  in which  $\text{R}_{14}$  and  $\text{R}_{15}$  are chosen, independently of each other, from hydrogen and  $(\text{C}_1-\text{C}_6)$  alkyl,  $-\text{phenyl}-\text{CO}-\text{CH}_3$  and  $-\text{CH}_2-\text{CH}_2-\text{N}(\text{CH}_3)_2$  groups,

$-\text{phenyl}-\text{CO}-\text{CH}_3$  or  $-\text{phenyl}-\text{CO}-\text{CH}=\text{CH}-\text{N}(\text{CH}_3)_2$ , morpholino, nitro or  $\text{SO}_3\text{H}$  groups,

groups:

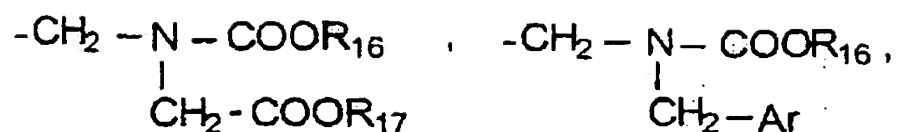


$\text{R}_{16}$  and  $\text{R}_{17}$  being chosen from  $\text{C}_1-\text{C}_6$  alkyl groups and  $\text{Ar}$  being a  $\text{C}_6-\text{C}_{14}$  aryl group,

and the addition salts of these compounds with pharmaceutically acceptable acids.

9. (previously presented) Compounds as claimed in claim 8, of formula I in which:

- X is chosen from oxygen,
- R<sub>1</sub> is chosen from hydrogen, halogens, a nitro group and groups -NR<sub>8</sub>R<sub>9</sub> in which R<sub>8</sub> and R<sub>9</sub> are chosen, independently of each other, from hydrogen and (C<sub>1</sub>-C<sub>4</sub>) alkyl groups,
- R<sub>2</sub> is chosen from hydrogen and halogens,
- R<sub>3</sub> is chosen from halogens, (C<sub>1</sub>-C<sub>4</sub>) alkyl groups, a guanidino group, groups -NR<sub>10</sub>R<sub>11</sub> in which R<sub>10</sub> and R<sub>11</sub> are chosen, independently of each other, from hydrogen, (C<sub>1</sub>-C<sub>4</sub>) alkyl groups, (C<sub>1</sub>-C<sub>4</sub>) phenylalkyl, -(CH<sub>2</sub>)<sub>2</sub>-N(CH<sub>3</sub>)<sub>2</sub>, and -(CH<sub>2</sub>)<sub>2</sub>-O-(CH<sub>2</sub>)<sub>2</sub>-N(CH<sub>3</sub>)<sub>2</sub> groups,
- R<sub>4</sub> is chosen from hydrogen, halogens, nitro groups and groups -NR<sub>12</sub>R<sub>13</sub> in which R<sub>12</sub> and R<sub>13</sub> are chosen, independently of each other, from hydrogen and (C<sub>1</sub>-C<sub>4</sub>) alkyl groups,
- R<sub>5</sub>, R<sub>6</sub> and R<sub>7</sub> are chosen from:
  - hydrogen or a halogen atom,
  - C<sub>1</sub>-C<sub>6</sub> alkyl, hydroxyl, C<sub>1</sub>-C<sub>6</sub> alkoxy, -CHO, -COOH, -CN, -CO<sub>2</sub>R<sub>14</sub>, -CONHR<sub>14</sub> and -CONR<sub>14</sub>R<sub>15</sub> groups, -NHCOR<sub>14</sub> and -NR<sub>14</sub>R<sub>15</sub> in which R<sub>14</sub> and R<sub>15</sub> are chosen, independently of each other, from hydrogen and (C<sub>1</sub>-C<sub>6</sub>) alkyl and -CH<sub>2</sub>-CH<sub>2</sub>-N(CH<sub>3</sub>)<sub>2</sub> groups,
  - phenyl-CO-CH<sub>3</sub> or -phenyl-CO-CH=CH-N(CH<sub>3</sub>)<sub>2</sub>,
  - morpholino, nitro or SO<sub>3</sub>H groups,
  - groups:



R<sub>16</sub> and R<sub>17</sub> being chosen from C<sub>1</sub>-C<sub>6</sub> alkyl groups and Ar being a C<sub>6</sub>-C<sub>14</sub> aryl group,

and the addition salts thereof with pharmaceutically acceptable acids.

10. (previously presented) Compounds as claimed in claim 8, which are:

5-(dimethylamino)-9H-quino[4,3,2-de][1,10]phenanthrolin-9-one,  
5-(benzylamino)-9H-quino[4,3,2-de][1,10]phenanthrolin-9-one,  
5-bromo-9H-quino[4,3,2-de][1,10]phenanthrolin-9-one,  
5-amino-9H-quino[4,3,2-de][1,10]phenanthrolin-9-one,  
5-methyl-9H-quino[4,3,2-de][1,10]phenanthrolin-9-one,  
5-chloro-9H-quino[4,3,2-de][1,10]phenanthrolin-9-one,  
5-bromo-10-methoxy-9H-quino[4,3,2-de][1,10]phenanthrolin-9-one,  
5-(dimethylamino-2-ethyl)amino-9H-quino[4,3,2-de][1,10]phenanthrolin-9-one,  
5-bis(2-chloroethyl)amino-9H-quino[4,3,2-de][1,10]phenanthrolin-9-one,  
5-(2-chloroethyl)amino-9H-quino[4,3,2-de][1,10]phenanthrolin-9-one,  
4-bromo-5-amino-9H-quino[4,3,2-de][1,10]phenanthrolin-9-one,  
5-bromo-9H-quino[4,3,2-de][1,7]phenanthrolin-9-one,

5-amino-9-*H*-quino[4,3,2-*de*][1,7]phenanthrolin-9-one,  
5-(dimethylamino-2-ethyl)amino-9-*H*-quino[4,3,2-*de*]-  
[1,7]phenanthrolin-9-one,  
5-bis(chloroethylamino-2-ethyl)amino-9-*H*-quino[4,3,2-*de*]-  
[1,7]phenanthrolin-9-one,  
5-(chloroethylamino-2-ethyl)amino-9-*H*-quino[4,3,2-*de*]-  
[1,7]phenanthrolin-9-one,  
4-bromo-5-amino-9-*H*-quino[4,3,2-*de*][1,7]phenanthrolin-9-one,  
and the addition salts thereof with pharmaceutically  
acceptable acids.

11. (previously presented) A process for preparing a  
compound of formula Ia, in which:

- X is chosen from oxygen,
- R<sub>1</sub> is chosen from hydrogen, halogens, a nitro  
group and groups -NR<sub>8</sub>R<sub>9</sub> in which R<sub>8</sub> and R<sub>9</sub> are chosen,  
independently of each other, from hydrogen and (C<sub>1</sub>-C<sub>4</sub>) alkyl  
groups,
- R<sub>2</sub> is chosen from hydrogen and halogens,
- R<sub>3</sub> is chosen from halogens, (C<sub>1</sub>-C<sub>4</sub>) alkyl groups,  
(C<sub>1</sub>-C<sub>6</sub>) alkoxy groups, a guanidino group, groups -NR<sub>10</sub>R<sub>11</sub> in which  
R<sub>10</sub> and R<sub>11</sub> are chosen, independently of each other, from  
hydrogen, (C<sub>1</sub>-C<sub>4</sub>) alkyl groups, (C<sub>1</sub>-C<sub>4</sub>) phenylalkyl groups and  
groups -(CH<sub>2</sub>)<sub>n</sub>-Y with Y being chosen from halogens and CN, -CH(O-  
Et)<sub>2</sub>, (C<sub>1</sub>-C<sub>6</sub>) alkoxy, -O-(CH<sub>2</sub>)<sub>2</sub>-N(CH<sub>3</sub>)<sub>2</sub> and -N(CH<sub>3</sub>)<sub>2</sub> groups and  
n = 1 to 3,

-  $R_4$  is chosen from hydrogen, halogens, nitro groups and groups  $-NR_{12}R_{13}$  in which  $R_{12}$  and  $R_{13}$  are chosen, independently of each other, from hydrogen and  $(C_1-C_4)$  alkyl groups,

-  $R_5$ ,  $R_6$  and  $R_7$  are chosen from:

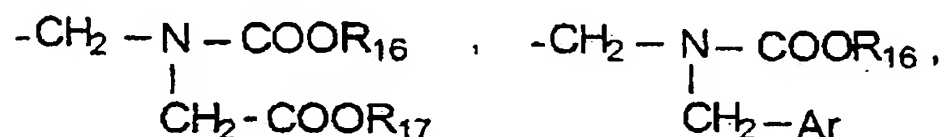
hydrogen or a halogen atom,

$C_1-C_6$  alkyl, hydroxyl,  $C_1-C_6$  alkoxy,  $(C_1-C_6)$ alkoxy $(C_1-C_6)$ alkyl,  $(C_1-C_4)$ alkylcarbonyloxy $(C_1-C_4)$ alkyl,  $-CHO$ ,  $-COOH$ ,  $-CN$ ,  $-CO_2R_{14}$ ,  $-CONHR_{14}$  and  $-CONR_{14}R_{15}$  groups,  $-NHCOR_{14}$  and  $-NR_{14}R_{15}$  in which  $R_{14}$  and  $R_{15}$  are chosen, independently of each other, from hydrogen and  $(C_1-C_6)$  alkyl,  $-phenyl-CO-CH_3$  and  $-CH_2-CH_2-N(CH_3)_2$  groups,

$-phenyl-CO-CH_3$  or  $-phenyl-CO-CH=CH-N(CH_3)_2$ ,

morpholino, nitro or  $SO_3H$  groups,

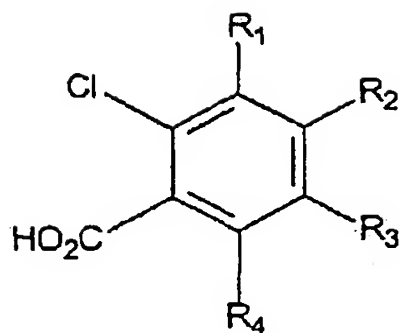
groups:



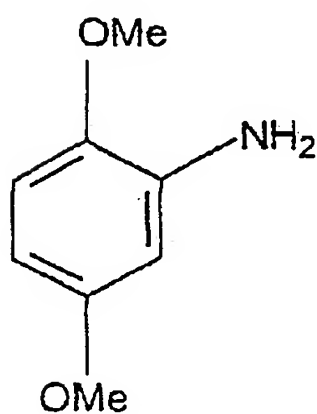
$R_{16}$  and  $R_{17}$  being chosen from  $C_1-C_6$  alkyl groups and Ar being a  $C_6-C_{14}$  aryl group,

which consists in:

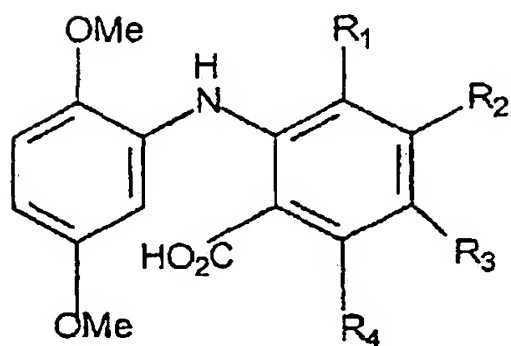
a - condensing a chlorobenzoic acid of formula:



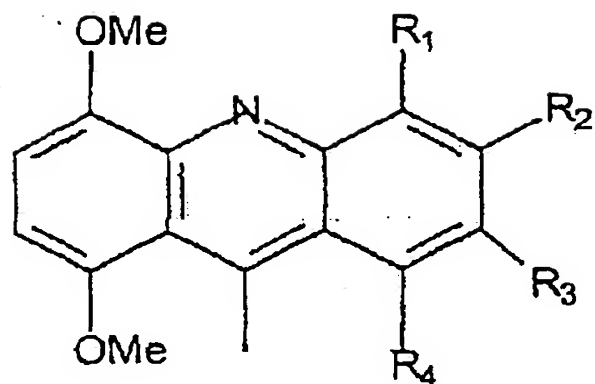
with a dimethoxyaniline of formula:



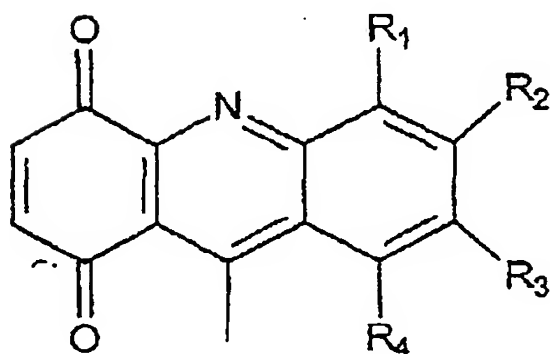
to give a compound of formula IIa:



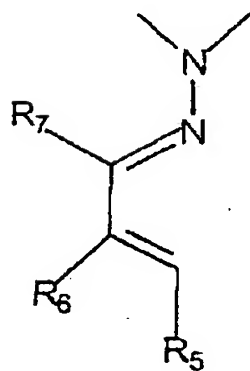
b - cyclizing the compound of formula IIa to give a compound of formula:



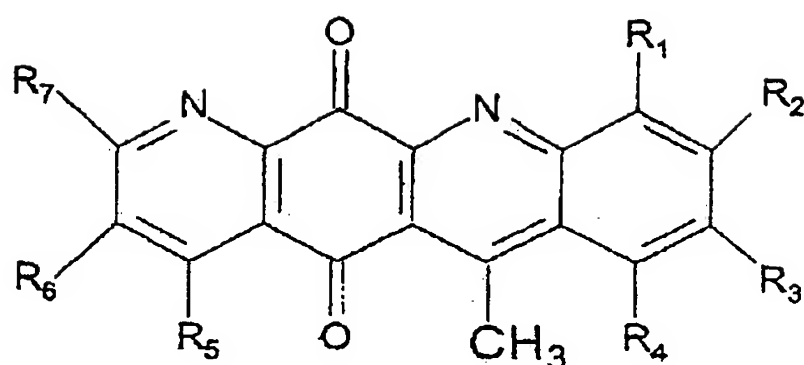
c - converting the compound into a quinone of formula IIIa:



d - reacting the quinone of formula IIIa with an azadiene of formula:



to give a compound of formula IVa:



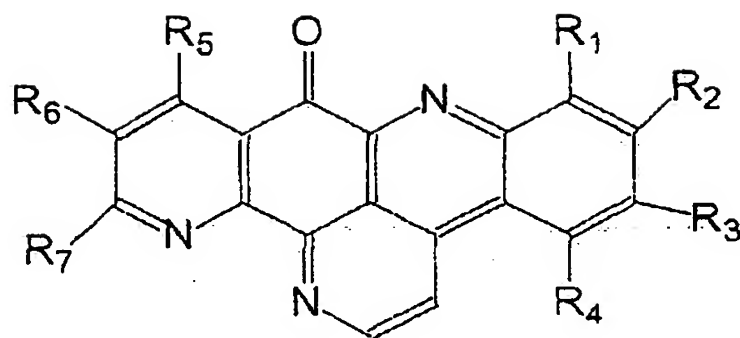
e - reacting the compound of the formula IVa with dimethylformamide diethyl acetal to give the compound of formula Ia,

f - and, optionally, converting the compound thus obtained into another compound of formula Ia.

12. (currently amended) A ~~process for~~ method of inhibiting the growth of a cancerous tumor in a patient, wherein said tumor is selected from the group consisting of breast cancer, prostate cancer, lung cancer, colorectal cancer, bladder cancer, glioblastomas, and astrocytomas ~~comprising administering an effective amount of a compound as defined in claim 1 to said patient.~~

13. (previously presented) A process for preparing compounds of general formula I, of formula:





in which:

- $R_1$  is chosen from hydrogen, halogens, a nitro group and groups  $-NR_8R_9$  in which  $R_8$  and  $R_9$  are chosen, independently of each other, from hydrogen and  $(C_1-C_4)$  alkyl groups,

- $R_2$  is chosen from hydrogen and halogens,

- $R_3$  is chosen from halogens,  $(C_1-C_4)$  alkyl groups,  $(C_1-C_6)$  alkoxy groups, a guanidino group, groups  $-NR_{10}R_{11}$  in which  $R_{10}$  and  $R_{11}$  are chosen, independently of each other, from hydrogen,  $(C_1-C_4)$  alkyl groups,  $(C_1-C_4)$  phenylalkyl groups and groups  $-(CH_2)_n-Y$  with  $Y$  being chosen from halogens and  $CN$ ,  $-CH(O-Et)_2$ ,  $(C_1-C_6)$  alkoxy,  $-O-(CH_2)_2-N(CH_3)_2$  groups and  $-N(CH_3)_2$  and  $n = 1$  to  $3$ ,

- $R_4$  is chosen from hydrogen, halogens, nitro groups and groups  $-NR_{12}R_{13}$  in which  $R_{12}$  and  $R_{13}$  are chosen, independently of each other, from hydrogen and  $(C_1-C_4)$  alkyl groups,

- $R_5$ ,  $R_6$  and  $R_7$  are chosen from:

hydrogen or a halogen atom,

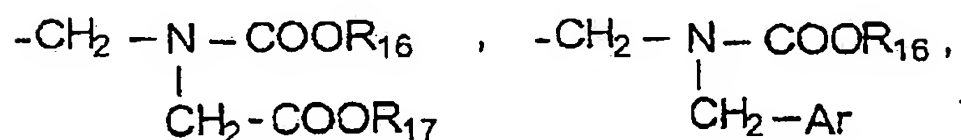
$C_1-C_6$  alkyl, hydroxyl,  $C_1-C_6$  alkoxy,

$(C_1-C_6)$ alkoxy $(C_1-C_6)$ alkyl,  $(C_1-C_4)$ alkylcarbonyloxy $(C_1-C_4)$ alkyl,

-CHO, -COOH, -CN, -CO<sub>2</sub>R<sub>14</sub>, -CONHR<sub>14</sub> and -CONR<sub>14</sub>R<sub>15</sub> groups, -NHCOR<sub>14</sub> and -NR<sub>14</sub>R<sub>15</sub> in which R<sub>14</sub> and R<sub>15</sub> are chosen, independently of each other, from hydrogen and (C<sub>1</sub>-C<sub>6</sub>) alkyl, -phenyl-CO-CH<sub>3</sub> and -CH<sub>2</sub>-CH<sub>2</sub>-N(CH<sub>3</sub>)<sub>2</sub> groups,

-phenyl-CO-CH<sub>3</sub> or -phenyl-CO-CH=CH-N(CH<sub>3</sub>)<sub>2</sub>,  
morpholino, nitro or SO<sub>3</sub>H groups,

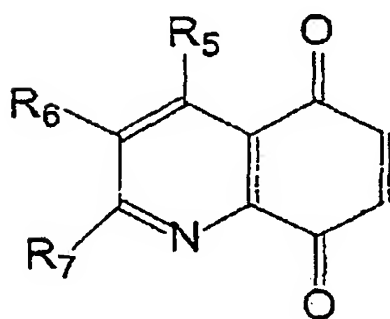
groups:



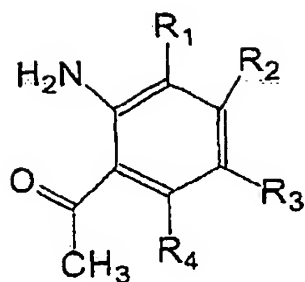
R<sub>16</sub> and R<sub>17</sub> being chosen from C<sub>1</sub>-C<sub>6</sub> alkyl groups and Ar being a C<sub>6</sub>-C<sub>14</sub> aryl group,

with the exclusion of the compounds of formula I in which R<sub>1</sub>, R<sub>2</sub>, R<sub>4</sub>, R<sub>5</sub>, R<sub>6</sub>, R<sub>7</sub> = H and R<sub>3</sub> = OCH<sub>3</sub>, which consists

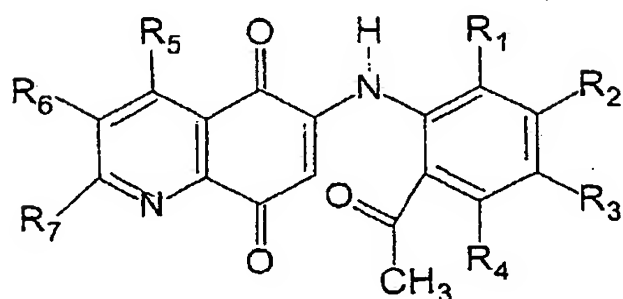
a) in reacting a hydroquinone of formula



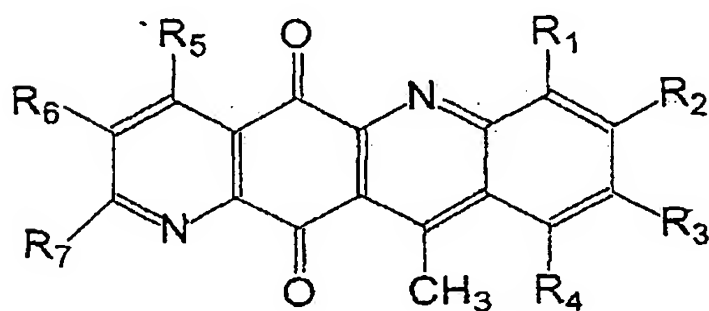
with a compound of formula



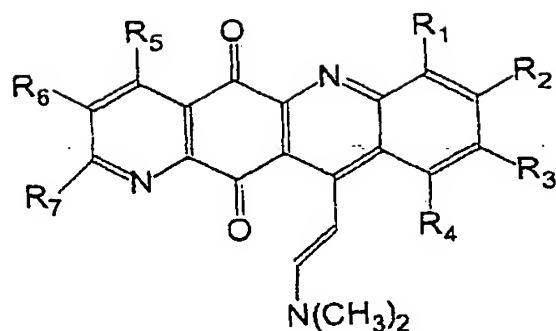
in the presence of  $CeCl_3$ ,  $7H_2O$  and ethanol to give a compound of formula II



b) in converting the compound of formula II into a compound of formula III in the presence of  $H_2SO_4$  in reflux acetic acid,



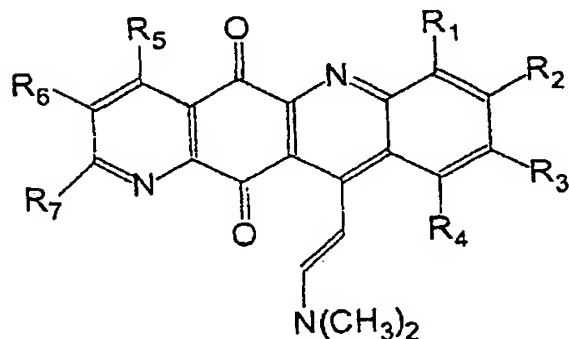
c) in reacting the compound of the formula III with  $HC(OC_2H_5)_2N(CH_3)_2$  in DMF at  $120^\circ C$  to form a compound of formula IV



d) in cyclizing the compound of formula IV to a compound of formula I in the presence of  $\text{NH}_4\text{Cl}$  and  $\text{AcOH}$ ,

e) optionally converting the compound of formula I thus obtained into another compound of formula II.

14. (previously presented) A compound of formula



in which:

- $\text{R}_1$  is chosen from hydrogen, halogens, a nitro group and groups  $-\text{NR}_8\text{R}_9$  in which  $\text{R}_8$  and  $\text{R}_9$  are chosen, independently of each other, from hydrogen and  $(\text{C}_1\text{-C}_4)$  alkyl groups,

- $\text{R}_2$  is chosen from hydrogen and halogens,

-  $R_3$  is chosen from halogens,  $(C_1-C_4)$  alkyl groups,  $(C_1-C_6)$  alkoxy groups, a guanidino group, groups  $-NR_{10}R_{11}$  in which  $R_{10}$  and  $R_{11}$  are chosen, independently of each other, from hydrogen,  $(C_1-C_4)$  alkyl groups,  $(C_1-C_4)$  phenylalkyl groups and groups  $-(CH_2)_n-Y$  with  $Y$  being chosen from halogens and  $CN$ ,  $-CH(O-Et)_2$ ,  $(C_1-C_6)$  alkoxy,  $-O-(CH_2)_2-N(CH_3)_2$  and  $-N(CH_3)_2$  groups and  $n = 1$  to  $3$ ,

-  $R_4$  is chosen from hydrogen, halogens, nitro groups and groups  $-NR_{12}R_{13}$  in which  $R_{12}$  and  $R_{13}$  are chosen, independently of each other, from hydrogen and  $(C_1-C_4)$  alkyl groups,

-  $R_5$ ,  $R_6$  and  $R_7$  are chosen from:

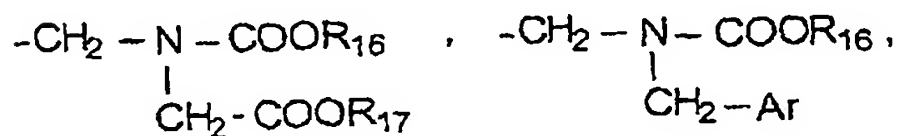
hydrogen or a halogen atom,

$C_1-C_6$  alkyl, hydroxyl,  $C_1-C_6$  alkoxy,  $(C_1-C_6)$ alkoxy $(C_1-C_6)$ alkyl,  $(C_1-C_4)$ alkylcarbonyloxy $(C_1-C_4)$ alkyl,  $-CHO$ ,  $-COOH$ ,  $-CN$ ,  $-CO_2R_{14}$ ,  $-CONHR_{14}$  and  $-CONR_{14}R_{15}$  groups,  $-NHCOR_{14}$  and  $-NR_{14}R_{15}$  in which  $R_{14}$  and  $R_{15}$  are chosen, independently of each other, from hydrogen and  $(C_1-C_6)$  alkyl,  $-phenyl-CO-CH_3$  and  $-CH_2-CH_2-N(CH_3)_2$  groups,

$-phenyl-CO-CH_3$  or  $-phenyl-CO-CH=CH-N(CH_3)_2$ ,

morpholino, nitro or  $SO_3H$  groups,

groups:



R<sub>16</sub> and R<sub>17</sub> being chosen from C<sub>1</sub>-C<sub>6</sub> alkyl groups and Ar being a C<sub>6</sub>-C<sub>14</sub> aryl group,

with the exclusion of compounds in which R<sub>1</sub>, R<sub>2</sub>, R<sub>4</sub>, R<sub>5</sub>, R<sub>6</sub>, R<sub>7</sub> = H and R<sub>3</sub> = OCH<sub>3</sub>,

and the addition salts of these compounds with pharmaceutically acceptable acids.

15. (new) A method of inhibiting the growth of a cancerous tumor in a patient, wherein said tumor is selected from the group consisting of breast cancer, prostate cancer, non-small-cell lung cancer, colorectal cancer, bladder cancer, glioblastomas, and astrocytomas.

16. (new) The process according to claim 15, wherein said compound is selected from the group consisting of:

5-(dimethylamino)-9H-quino[4,3,2-de][1,10]phenanthrolin-9-one,  
5-(benzylamino)-9H-quino[4,3,2-de][1,10]phenanthrolin-9-one,  
5-bromo-9H-quino[4,3,2-de][1,10]phenanthrolin-9-one,  
5-amino-9H-quino[4,3,2-de][1,10]phenanthrolin-9-one,  
5-methyl-9H-quino[4,3,2-de][1,10]phenanthrolin-9-one,  
5-methoxy-9H-quino[4,3,2-de][1,10]phenanthrolin-9-one,  
5-chloro-9H-quino[4,3,2-de][1,10]phenanthrolin-9-one,  
5-bromo-10-methoxy-9H-quino[4,3,2-de][1,10]phenanthrolin-9-one,

5-(dimethylamino-2-ethyl)amino-9H-quino[4,3,2-de]-  
[1,10]phenanthrolin-9-one,  
5-bis(2-chloroethyl)amino-9H-quino[4,3,2-de]-  
[1,10]phenanthrolin-9-one,  
5-(2-chloroethyl)amino-9H-quino[4,3,2-de][1,10]-  
phenanthrolin-9-one,  
4-bromo-5-amino-9-H-quino[4,3,2-de][1,10]phenanthrolin-9-  
one,  
5-bromo-9-H-quino[4,3,2-de][1,7]phenanthrolin-9-one,  
5-amino-9-H-quino[4,3,2-de][1,7]phenanthrolin-9-one,  
5-(dimethylamino-2-ethyl)amino-9-H-quino[4,3,2-  
de][1,7]phenanthrolin-9-one,  
5-bis(chloroethylamino-2-ethyl)amino-9-H-quino[4,3,2-  
de][1,7]phenanthrolin-9-one,  
5-(chloroethylamino-2-ethyl)amino-9-H-quino[4,3,2-  
de][1,7]phenanthrolin-9-one,  
4-bromo-5-amino-9-H-quino[4,3,2-de][1,7]phenanthrolin-9-one,

and the addition salts thereof with pharmaceutically  
acceptable acids.